

NORTHERN CALIFORNIA BOTANISTS

BOTANICAL LEAFLETS

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PRESIDENT'S MESSAGE

With the wildfires last summer and COVID-19 still here, this has again been a very different spring than most of us anticipated. Hopefully everyone has been able to do their best during this pandemic. My extended family lost our cabin in the Dixie Fire last summer so this past year has been very different for me. We are planning to rebuild but it is a lot of work which will take some time to complete.

We had our first virtual symposium in January 2022. Thanks to our board for all of their hard work in a very challenging situation. And thank you all for participating since it was new for all of us to be virtual rather than in person. We plan to have our next symposium in January 2024. We will keep you in-

formed as we develop this upcoming symposium.

Jay Sexton has ended his time as a board member. Thank you Jay for all your hard work. Gail has narrowed her duties on the board with other board members taking on tasks that she used to do.

We developed the Dean W. Taylor Botanical Exploration Memorial Award to honor Dean Taylor's goals of finding unknown botanical diversity in northern California. We have three people who received this new award of \$500.00 each. Hopefully each of these awardees will be able to add to the knowledge of botanical diversity in northern California.

We again have solicited students to apply for our

student scholarships and received many great applications. Twelve scholarships were awarded by Northern California Botanists this year. Two of these were awarded with money provided by the Shasta and the Sacramento Valley Chapters of the California Native Plant Society. Thank you very much to both of those chapters for providing money for scholarships! The twelve scholarships were awarded at \$1,000.00 each! Hopefully a new batch of botanists doing vital work in Northern California will develop from those scholarships.

Take care and stay well during this pandemic.
—Linnea Hanson, President

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MYSTERY PLANT

You can probably guess the family of this plant right away, but what genus and species is this? This widespread perennial species is fairly common in northern California, and its distribution continues north into British Columbia. It often closely follows the melting snow and disappears from view soon after fruiting. There is apparently much variation within this species throughout its range, with study needed to sort out the taxonomically important forms.

Photo by Lawrence Janeway



Answer on Page 3

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DEAN W. TAYLOR BOTANICAL EXPLORATION MEMORIAL AWARD

Most of the conversations I had with Dean Taylor would start out being about botany, but would eventually wend their way into a discussion of geology and ecology. He loved to talk about the specific stressors that plants experienced as they grew on serpentine, limestone, gabbro, recent lava flows and ancient soils, and how the plants that managed to survive these circumstances were often isolated

from their conspecific neighbors. He'd then dip into island biogeography, and note how every soil that provides strict limitations on what species could survive there was like an island, and that California's unique geologic diversity meant that botanically, it was like a dozen archipelagos occupying the same state -- one archipelago for the ultramafic-tolerant species, one for the seasonal wetland spe-

cies, one for the limestone-loving species. It was dizzying to think about all these island chains, locked in the rock, harboring incredible plant diversity. It seems fitting that our first awards in Dean's memory all focus on exploring different geologic archipelagos throughout Northern California.

—Jane Van Susteren



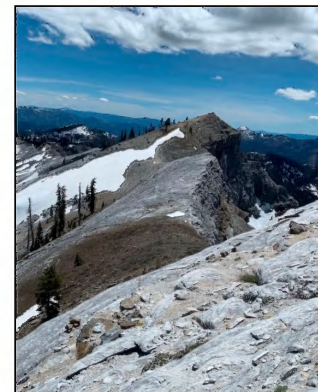
Matt Berger is exploring the limestone outcrops near Girard Ridge on the border of Siskiyou and Shasta County. He visited the area twice this spring in April and May. This area has never been collected before, so we're looking forward to the results of this botanical exploration.



Shane Hanofee is surveying lava caps on the four ridges that bound the three forks of the Yuba River. Other nearby lava caps such as Hell's Half Acre and

Peavine Ridge have extensive plant diversity, so we're looking forward to the results of a comprehensive survey of this unique habitat.

Dana York is putting together a moss flora and catalog of vascular plants for the Marble Mountain Wilderness -- an area of incredible geologic diversity, with limestone, marble, ultramafic rocks as well as granodiorite and metasedimentary and metavolcanic rocks. This geological diversity has nurtured incredible botanical diversity, with nearly 1000 species of plants and bryophytes, including over rare 70 taxa. He's been collecting in the area since 2011, and is continuing to explore this biodiversity hotspot.



THANK YOU PAINTING PRESENTED TO GAIL KUENSTER

Russell Huddleston thought that it would be nice to do something for Gail in recognition of all she has done for Northern California Botanists and her many years of service. As many of you know Jenny Marr is a very talented artist. Russell thought a framed piece of Jenny's art would be a perfect gift. Russell reached out to Jenny and she developed the iris painting in the photo.

Jenny said that the painting was created using a technique called watercolor

batik. This method is in many ways similar to a more commonly familiar batik used for fabric. Watercolor batik begins with lightly sketching an image on good quality Japanese rice paper, such as ginsu paper, followed with alternating layers of watercolor and liquid bees wax painted onto the paper. Once the watercolor portion is done and the final wax layer dry the painting is crumpled up into a tight ball. Then the painting is carefully opened back up and flattened out again

revealing lots of lines and cracks in the wax. At this point an indigo watercolor layer is applied, over the whole painting but it is only absorbed in the cracked lines. When this indigo layer has dried the layers of wax are removed using many layers of blank news print and an iron until only the rice paper remains, and all the wax is gone. The finished painting is then mounted on a sheet of archival acid free watercolor paper, for integrity and longevity,

Painting ...continued on page 3

2022-2023 STUDENT RESEARCH SCHOLARSHIP AWARDS

NCB provides scholarships for students doing research on botanical subjects in northern and central California. The Sacramento Valley and Shasta chapters of CNPS generously support this program by funding an additional scholarship each. There were many great research projects to choose from. Congratulations to these students and thank you to all that submitted applications!

Recipient	Degree	College	Title of Research Project
Katherine Brafford	PhD	University of California, Davis	Rapid evolution of native and non-native grassland species changes to water availability
Brook Constantz	PhD	University of California, Santa Cruz	Evaluating restored forests along the Sacramento River, California for a novel ecosystem
Kaylie DeLuca	MS	California State University, Chico	An evaluation of a restored wet meadow within a recently burned landscape matrix, southern Cascades, California: A comparative history
Ashley Dickinson	MS	California Polytechnic University, Humboldt	Assessment of the genetic population structure and rate of clonality in a rare serpentine endemic, <i>Lathyrus biflorus</i> , using ddRADseq
Kaleb Goff	PhD	North Carolina State University	Quantifying changes in alpine plant community diversity in the Sierra Nevada, CA, over an 18-year study period
Kt Lynch	Under-grad	University of California, Davis	From nectar to seeds: Do nectar bacteria increase reproductive fitness in <i>Epilobium canum</i> by becoming seed endophytes?
Courtney Matzke	MS	Claremont Graduate University	A vascular floristic study of the Piute Mountains [Kern County]
Kale McNeill	MS	California Polytechnic University, Humboldt	A genetic study of endangered wetland violets in northwestern California
Larke Reeber	MS	San Jose State University	Species delimitation of a moss clade in a global hotspot for bryophyte diversity
Jasmine Rios	MS	Sacramento State University	Integrated pest management (IPM) approaches to control invasive species in CA vernal pools
Kyle Rosenblad	PhD	University of California, Berkeley	Climate change and evolutionary potential in a montane meadow-dependent species
Yuxin Wei	PhD	University of Wisconsin, Madison	The systematics and biogeography of <i>Frasera</i> (Gentianaceae) in North America

Painting ...continued from page 2

and placed in a mat and frame.

Jenny Marr, Barbara Castro and Linnea Hanson presented the painting to Gail Kuenster at her home in Chico at the beginning of May 2022. Thank you Gail for all you your many years of service to Northern California Botanists!

—Linnea Hanson



Answer to "Mystery Plant": Nuttall's bitter-cress or toothwort – *Cardamine nuttallii* (Brassicaceae - Mustard family).
Mumbo Basin, Trinity County, 26 May 2022.



NORTHERN CALIFORNIA
BOTANISTS

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In addition, I would like to donate \$_____ to Northern California Botanists to help fund NCB programs and student research scholarships.

Make checks payable to "Northern California Botanists" and mail to:

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